

Having thus described the invention, what is claimed is:

1. A separation finger apparatus for removable insertion into a stream of web material, comprising:

a separation finger;

a translation member mounted for rotation about a first axis, the translation member being coupled to the separation finger and in translating engagement therewith, the translation member having a length along which the separation finger can translate;

a pivot member rotatably coupled to the separation finger for rotation about a second axis, the translation member and the pivot member being rotatable with respect to one another to translate the separation finger in a range of positions upon the length of the translation member between and including a retracted position and an extended position with respect to the stream of web material.

2. The separation finger apparatus as claimed in claim 1, wherein the pivot member is coupled to the separation finger at a first location on the pivot member, the pivot member being mounted for rotation about a third axis at a second location on the pivot member, the third axis being in fixed relationship to the first axis in the range of positions of the separation finger.

3. The separation finger apparatus as claimed in claim 1, wherein the translation member comprises at least one rod upon and along which the separation finger translates, the at least one rod being mounted for rotation about the first axis.

4. The separation finger apparatus as claimed in claim 1, wherein the translation member comprises an element having an elongated aperture formed therein, at least a part of the

separation finger being secured within and adapted to translate within the elongated aperture through the range of positions of the separation finger.

5. ⁸ The separation finger apparatus as claimed in claim 1, further comprising a translation block attached to the separation finger, the translation block being coupled for translation to the translation member for translational movement along a length of the translation member through the range of positions of the separation finger.

6. ⁹ The separation finger apparatus as claimed in claim 1, further comprising a first pivot shaft coincident with the first axis, the translation member being mounted to the first pivot shaft for rotation about the first axis.

7. ⁵ The separation finger apparatus as claimed in claim 2, further comprising a pivot shaft coincident with the third axis, the pivot member being mounted to the pivot shaft for rotation about the third axis.

8. ¹⁰ The separation finger apparatus as claimed in claim ⁹6, further comprising a second pivot shaft coincident with the third axis, the pivot member being mounted to the second pivot shaft for rotation about the third axis.

9. ¹¹ The separation finger apparatus as claimed in claim 1, wherein the separation finger and the translation member are secured against rotation with respect to one another.

10. ⁴ The separation finger apparatus as claimed in claim 2, wherein the separation finger and the translation member are secured against rotation with respect to one another.

11. ³ The separation finger apparatus as claimed in claim 2, wherein the pivot member is an elongated arm and wherein the first location and the second location of the elongated arm are on opposing ends of the elongated arm.

12. The separation finger apparatus as claimed in claim 1, wherein the separation finger has a proximal end to which is coupled the translation member and a distal end for insertion into the stream of web material.

13. A separation finger apparatus, comprising:
a separation finger pivotably mounted about a pivot axis, the separation finger also mounted to orbit about an orbit axis located a distance from the pivot axis.

14. The separation finger apparatus as claimed in claim 13, further comprising a translation member slidably engaged with the separation finger and mounted for rotation about a translation member axis located a distance from the orbit axis and the pivot axis.

15.¹⁷ The separation finger apparatus as claimed in claim 14, wherein the translation member axis and the orbit axis are in fixed relationship with one another.

16.¹⁸ The separation finger apparatus as claimed in claim 15,¹⁷ where in the separation finger is secured against rotation with respect to the translation member.

17.¹⁹ The separation finger apparatus as claimed in claim 16,¹⁸ wherein the separation finger is engaged to the translation member near the pivot axis of the separation finger.

18.¹⁶ The separation finger apparatus as claimed in claim 14, wherein the translation member comprises at least one elongated rod mounted for rotation about the translation member axis, the separation finger coupled to the at least one elongated rod to translate therealong in the orbit of the separation finger.

19.¹⁵ The separation finger apparatus as claimed in claim 14, wherein the translation member has defined therein an elongated aperture having a length, the separation finger being slidably engaged within and adapted to translate along the length of the elongated aperture.

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20. The separation finger apparatus as claimed in claim ¹²15, wherein the translation member is rotatably secured at the translation member axis to a pivot shaft.

21. The separation finger apparatus as claimed in claim ¹⁷15, further comprising a pivot arm rotatably coupled at a first end to a pivot shaft located on the orbit axis and rotatably coupled at a second end to the separation finger.

22. The separation finger apparatus as claimed in claim 13, wherein the translation member is rotatably secured at the translation member axis to a second pivot shaft.

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23. A separation finger apparatus for insertion into a stream of web product, comprising a separation finger mounted for simultaneous translation and rotation with respect to the stream of web product.

24. A method for inserting a separation finger into a stream of web material, comprising the steps of

providing a separation finger;

inserting the separation finger into the stream of web material by simultaneously translating and rotating the separation finger toward and with respect to the stream of web material.

25. The method as claimed in claim 24, further comprising the step of simultaneously translating and rotating the separation finger away from and with respect to the stream of web material.

26. The method as claimed in claim 24, wherein the separation finger passes through an arcuately-shaped path during the step of inserting the separation finger into the stream of web material.

27. The method as claimed in claim 26, wherein the arcuately-shaped path is non-circular.

28. The method as claimed in claim 24, wherein the separation finger is coupled to a translation member rotatably secured with respect to the stream of web material, translation of the separation finger being accomplished at least in part by the separation finger translating upon the translation member, and rotation of the separation finger being accomplished at least in part by the separation finger rotating with rotation of the translation member.

29. The method as claimed in claim 24, further including the steps of:

providing a translation member coupled in translating relationship to the separation finger and mounted for rotation with respect to the stream of web material;

providing a pivot arm rotatably mounted at a first end with respect to the stream of web material and rotatably coupled at a second end to the separation finger;

rotating the pivot arm about the first end to translate the separation finger along the translation member as the translation member rotates and to move the separation finger toward and with respect to the stream of web material.